REMARKS/ARGUMENTS

Claims 1-26 are pending in the present application:

- Claims 1-2, 8-12, 16-18, and 26 stand rejected under 35 USC 102(b) as anticipated by Chang (5,543,851).

- Claims 3-7 and 19-22 stand rejected under 35 USC 103(a) as unpatentable over Chang in view of Carbonell.

- Claims 13-15 and 23-25 stand rejected under 35 USC 103(a) as unpatentable over Chang (6,185,538) in view of Parry. Applicant notes that 6,185,538 is a patent to Schulz. In the interest of expedient prosecution, it will be assumed that the patent number is a typographical error and that the intended reference is Chang 5,543,851.

Claims 1-2, 8-12, 16-18, and 26

Claims 1-2, 8-12, 16-18 and 26 stand rejected as anticipated by Chang. It is respectfully submitted, however, that Chang does not each and every limitation of these claims and thus fails to support an anticipation rejection under 35 USC 102.[1]

Independent method **claim 1** recites, *inter alia*, the step of:

sequentially translating said portions of text data in accordance with a variable level of complexity of translation to a target language.

Independent apparatus **claims 16 and 26** contain similar requirements.

The Office Action cites to Chang col. 3:11-12 and col. 4:27-39 as teaching this requirement. However, Chang teaches translating only those portions of the original text that exceed a certain grade level or other preselected difficulty level. Easier portions, on the other hand, are not automatically translated. Moreover, the difficulty level relates to the difficulty of the source language (*i.e.*, the language be translated), and not to the complexity of the translation.

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[1] MPEP 2131.

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More specifically, and with additional reference to Chang col. 5:59 to col. 6:6 and Figure 5b (note especially steps 521, 522, 524, and 526), Chang's system includes an automatic translation mode which uses a flag to represent the difficulty of a word or phrase in the source language. If the word or phrase is more difficult than the selected difficulty level, it is translated. If not, the word or phrase is not translated, and the system checks to see if the user has manually selected text for translation.

In contrast, the present claims require translating text data in accordance with a variable level of complexity of translation. Stated another way, the complexity relates to the complexity of the translation provided to the user, not to the difficulty of the language to be translated. By way of one example, the Examiner's attention is directed to page 8, line 12 to page 9, line 4 of the present application.[2] In a case where a translation complexity level is set to high, for example, a multi-syllable word or complex phrase may be inserted for the word being translated. If, on the other hand, the complexity level is set to low, a simple word is inserted instead.

As Chang fails to disclose or suggest every element of the invention of independent claims 1, 16, and 26, the pending claims are not anticipated by Chang. For at least the foregoing reasons, withdrawal of the anticipation rejection and an early indication that the pending claims are directed to allowable subject matter are requested.

Moreover, independent **claim 16** also requires:

a microprocessor for . . . formatting the video component and related translated text data for synchronized output.

The Office Action cites to Chang col. 3:19-20 and col. 3:42-45 as teaching this requirement. However, as illustrated in Chang Figure 2 (reproduced below), the cited portion of Chang relates to a synchronization generator 34 which provides signals to a closed caption decoder 32. The decoder 32 uses the signals to time the processing of the input radio signal 18 for generating the caption data 42. The caption data 42 is in turn provided to a microcontroller 38.

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[2] The example is presented solely for the purpose of illustration and is not intended to limit the claimed invention.

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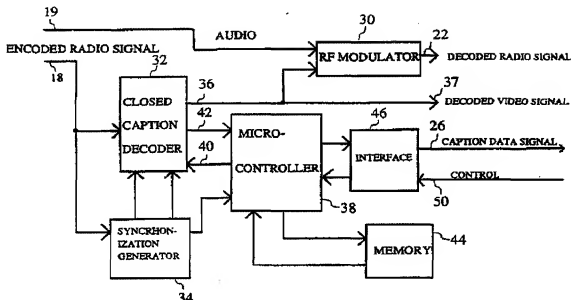
Chang Figure 2

As will be appreciated, the cited portion of Chang is directed to the decoding of the input radio signal 18 to extract the caption data 42. Chang thus does not disclose or suggest formatting the video component and related translated text data for synchronized output as required by claim 16.[3] Thus, it is submitted that claim 16 and its dependent claims distinguish over Chang for at least this additional reason.

Dependent **claim 18**, which depends from claim 16, further requires a memory containing a plurality of language databases. The language databases include a metaphor interpreter. The Office Action cites to Chang Fig. 2 element 44 and col. 6:24-34 as teaching this requirement. However, the cited portion of Chang merely describes the flags or identifiers which are used to identify the difficulty of the word to be translated.[4]

In contrast, claim 18 requires a metaphor interpreter. By way of one example, the Examiner's attention is directed to page 8, lines 12-17 of the present application.[5] If, for

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[3] In Figure 3 and starting at col. 3:62, Chang also discloses a caption data manager 28 which includes a microcontroller 54. However, the caption data manager does not format the video component and the related translated text data as required by claim 16.
[4] The function of these identifiers is also discussed above in connection with claim 1.
[5] The example is presented solely for the purpose of illustration and is not intended to limit the claimed invention.

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example, the extracted text data includes a phrase such as "once in a blue moon," it may be replaced with the term "very rare." As Chang fails to disclose or suggest the claimed metaphor interpreter, it is submitted that claim 18 distinguishes patentably over Chang for at least this additional reason.

Claims 3-7 and 19-22

Claims 3-7 and 19-22 stand rejected as obvious over Chang in view of Carbonell. However, the Office Action fails to establish a *prima facie* case of obviousness because

- there is no suggestion or motivation to combine the references in the manner suggested by the Office Action;

- the proposed modification would render the reference to be modified unsuitable for its intended purpose;

- even if so combined, the combined references do not disclose each and every element of the claimed invention.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation in the references themselves or in the knowledge generally available to one of ordinary skill of the art to modify the reference or to combine reference teachings. The teaching or suggestion to make the claimed combination must be found in the prior art, and not based on applicant's disclosure.[6] In addition, the proposed modification must not render the reference to be modified unsuitable for its intended purpose, and the references must not teach away from the invention.[7] Further, all the claim limitations must be taught or suggested by the prior art.[8]

Chang is directed to a closed caption processing system for processing standard, closed-caption broadcast television signals.[9] As will be readily confirmed by surfing just a few of the available channels or perusing a TV guide, the content of broadcast television programs is virtually boundless, reflecting not only the varying tastes and

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[6] MPEP 2142, *citing In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
[7] MPEP 2143.01; MPEP 2145(X).
[8] MPEP 2143.03.
[9] Chang at Abstract; col. 2:30-41.

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interests of millions of viewers but also the creative inspiration of an untold number of authors and other content providers. One consequence of this variation is that the vocabulary, structure, and syntax of the language used in these programs can vary widely from channel to channel and from program to program.

The cited portions of Carbonell, however, focus on a much more limited field -- the machine translation of technical documentation. As noted in the portions of Carbonell cited by the Examiner, the reference describes many of the linguistic obstacles to an accurate translation, including words with more than one meaning in an ambiguous context, words which play more than one syntactic role, words of ambiguous makeup, and the like.[10]

In view of these linguistic hurdles, Carbonell concludes that the high quality machine translation of unconstrained natural language texts is "virtually impossible."[11] Consequently, Carbonell rejects the translation of natural language texts, and instead requires that authors use a constrained source language (CSL):

> [T]he present invention limits the authoring of documents within the bounds of a constrained language. A constrained language is a sublanguage of a source language (e.g., American English) developed for the domain of a particular user application.[12]

To this end, Carbonell requires the consistent authoring of source documents, insisting among other things that the authors use defined grammatical constraints and requiring the development of "special" vocabularies particular to specialized domains or fields (e.g., farming).[13] Indeed, terms which are sexist, colloquial, idiomatic, overly complicated or technical, obscure, or which in other ways inhibit communication should be avoided.[14] Moreover, the rules of standard American English orthography "must" be followed, non-standardized spellings are to be avoided, and capitalized words should

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[10] Carbonell col. 10:31 – col. 11:11.
[11] Carbonell col. 10:32-35.
[12] Carbonell col. 11:47-53.
[13] See, e.g., Carbonell col. 11:58 – col. 12:12; col. 12:42-49.
[14] Carbonell col. 13:56-62.

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only be used to indicate the special meanings of terms. These and still other constraints are described in greater detail by Carbonell.[15]

These constraints – which are no doubt difficult enough to enforce in the field of technical writing -- are fundamentally at odds with the character of broadcast television, which for better or worse depends on the diversity and creativity of its content for much of its appeal.[16] Further, modifying Chang to incorporate the teachings of Carbonell would render Chang unsuitable for its stated purpose of translating unconstrained, natural language words found in broadcast television, and especially those which might be difficult or otherwise not understood by a user.[17] As there is thus no motivation or suggestion to combine the references, the Office Action fails to establish *prima facie* obviousness of the claims at issue.

Even if the references are so combined, the combined references fail to teach each and every element of the claimed invention.

Dependent **claim 3**, for example, requires determining where a term present in the portion of text data under analysis is repeated and, if the term is determined to be repeated, replacing the term with a different term of similar meaning in all occurrences after a first occurrence of the term. It is submitted that such a requirement is neither suggested nor disclosed by Carbonell. Indeed, the section of Carbonell cited in the Office Action explicitly teaches against such a method, teaching that the meaning of a word is often a function of its context.

Dependent **claims 4, 5, and 22** address the translation of text data containing at least one of colloquialisms and metaphors, requiring that the ambiguous terms be replaced with standard terms representing the intended meaning. As noted above, however, Carbonell requires that the text to be authored to *exclude* colloquial, idiomatic, and similar language in the first instance.

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[15] Carbonell col. 14:9 – col. 15:44.
[16] Imagine for a moment if the writers of the famous *Seinfeld* episode were constrained from using the expression "master of my domain."
[17] Chang col. 18:18-28.

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Dependent **claims 7 and 20** are directed to the use of cultural/historical databases. It is submitted that Carbonell, which is directed to the translation of specialized, technical documentation, discloses no such limitation.

For at least the foregoing reasons, it is respectfully submitted that the Office Acton has failed to establish the *prima facie* non-obviousness of dependent claims 3-7 and 19-22 and that these claims distinguish patentably and non-obviously over the prior art of record.

Dependent claims 13-15 and 23-25

Dependent claims 13-15 and 23-25 stand rejected as obvious over Chang in view of Parry.

In rejecting **claims 13 and 23**, the Office Action cites to Parry col. 20:30-55 and col. 2:49-61 as teaching the step of setting a personal preference level for determining the level of complexity of translation. It is respectfully submitted, however, that Parry fails to disclose or suggest adjusting a complexity of a translation to a target language. Moreover, the cited portions of Parry teach allowing a student to select only a sequence in which activities are to be presented, and not their complexity.

In rejecting **claims 14 and 24**, the Office Action cites to Parry col. 12:52-60 and col. 2:49-61 as teaching that the level of complexity be automatically increased based on a predetermined number of occurrences of similar terms. As noted above, Parry fails to disclose or suggest adjusting a complexity of a translation to a target language. Moreover, the cited portions of Parry teach only that follow up questions have increasing complexity.

Because the combined references fail to teach all the limitations of the foregoing dependent claims, it is submitted that the Office Action fails to establish a *prima facie* case of obviousness with respect thereto.

It is further submitted that dependent claims not specifically addressed above are also allowable at least by virtue or their dependence from their respective base claims.

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Conclusion

For at least the foregoing reasons, it is submitted that claims 1-26 distinguish patentably and non-obviously over the prior art of record. An early indication of allowability is earnestly solicited.

Respectfully submitted,

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